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OCTOBER 06, 1998

HOLLAND & HART LLP  
ROBERT H. KELLY  
555 - 17TH STREET, #3200  
DENVER, CO 80202

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OCT 14 1998

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\*100774705A\*

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RECORDATION DATE: 07/16/1998

REEL/FRAME: 9330/0574  
NUMBER OF PAGES: 4

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:  
PURNADI, RENE W.

DOC DATE: 07/13/1998

ASSIGNOR:  
HSU, LIANGCHI

DOC DATE: 07/13/1998

ASSIGNEE:  
NOKIA MOBILE PHONES LIMITED  
KEILALAHDENTIE 4  
02150 ESPO, FINLAND

SERIAL NUMBER: 09116530  
PATENT NUMBER:

FILING DATE:  
ISSUE DATE:

PAULA MCCRAY, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

Mail Ledger	
Docketed	
Date	

07-24-1998



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PATENTS ONLY

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies): MRO 7.16.98

Rene W. Purnadi and Liangchi Hsu

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

2. Name and address of receiving party(ies)

Name: Nokia Mobile Phones Limited

Street address: Keilalahdentie 4, 02150 Espo, Finland

Additional name(s) & address(es) attached? ☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name☐ OtherExecution Date: July 13, 1998

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: 7/13/98

A. Patent Application No.(s)

B. Patent No.(s)

Attorney Docket No.: NC17051

Additional numbers attached? ☐ Yes ☒ No

5. Name and Address of party to whom correspondence concerning document should be mailed:

Name: Robert H. KellyInternal Address: Holland & Hart LLPP.O. Box 8749Denver, CO 80201Street Address: 555-17th Street, #3200City: Denver State: CO Zip: 802026. Total number of applications and patents involved: 17. Total fee (37 CFR 3.41) ..... \$ 40.00☐ Enclosed☒ Authorized to be charged to deposit account

8. Deposit account number:

08-2623

(Attach duplicate copy of this page if paying by deposit account)

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9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*Robert H. Kelly, #33,922

Name of Person signing

Signature

Date

Total number of pages including cover sheet, attachments and document: 4Mail documents to be recorded with required cover sheet information to:  
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Washington, D.C. 20231

PATENT  
EXPRESS MAIL NO. EL076647086US  
Attorney Docket No. NC17051  
Client/Matter No. 40725.830001.001

**A S S I G N M E N T**

WHEREAS, we, Rene W. Purnadi, having a residence address of 6713 Lyndale Drive, Watauga, Texas 76148; and Liangchi Hsu, having a residence address of 2614 Tillman Drive, Arlington, Texas 76006, have made a certain new and useful invention relating to an APPARATUS, AND ASSOCIATED METHOD FOR CONTROLLING SERVICE DEGRADATION PERFORMANCE OF COMMUNICATIONS IN A RADIO COMMUNICATION SYSTEM, for which we are making or we have made application for Letters Patent of the United States, said application being identified by Docket No. NC17051 and Client/Matter No. 40725.830001.001, in the law firm of Holland & Hart LLP, 555 Seventeenth Street, Suite 3200, Denver, Colorado, and which is executed concurrently herewith, and

WHEREAS, we now own the entire right, title and interest therein; and

WHEREAS, Nokia Mobile Phones Limited, a Finnish corporation, whose post office address is Keilalahdentie 4, 02150 Espo, Finland, is desirous of acquiring the entire interest in and to said invention, said application, and the Letters Patent to be obtained therefor;

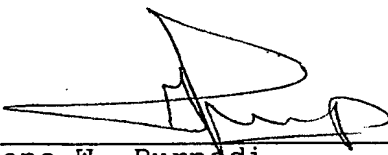
NOW THEREFORE, we have sold, assigned, and set over, and by these presents do hereby sell, assign, and set over, unto the said Nokia Mobile Phones Limited, and said assignee's legal representatives, successors, and assigns, the entire

right, title, and interest in and to said invention, said application, and the Letters Patent, both foreign and domestic, that may or shall issue thereon; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue said Letters Patent to the above-mentioned assignee, consistent with the terms of this Assignment.

UPON SAID CONSIDERATION, we do hereby covenant and agree with the said assignee that we will not execute any writing or do any act whatsoever conflicting with these presents, and that we will, at any time upon request, without further or additional consideration, but at the expense of the said assignee, execute such additional assignments and other writings and do such additional acts as said assignee may deem necessary or desirable to perfect the assignee's enjoyment of this grant, and render all necessary assistance in making application for and obtaining original, divisional, renewal, reissued or extended Letters Patent of the United States, or of any and all foreign countries, on said invention, and in enforcing any rights or choices in action accruing as a result of such applications or patents, by giving testimony in any proceedings or transactions involving such applications or patents, and by executing preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of both parties.

IN WITNESS WHEREOF, we have hereunto set our hands and affixed our seals on the date hereinafter set forth.

Date: 07/13/1998

  
\_\_\_\_\_  
Rene W. Purnadi

STATE OF TEXAS )  
 )  
COUNTY OF DALLAS ) ss.

On this 13<sup>th</sup> day of July, 1998, before me, a notary public in and for said county, appeared Rene W. Purnadi, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he signed, sealed, and delivered the same instrument as a free and voluntary act for the uses and purposes therein set forth.

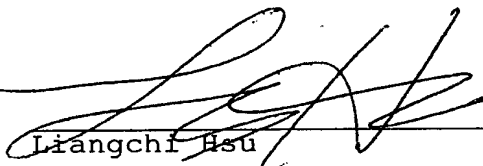
My commission expires 07-21-2001.

Witness my hand and official seal.

(SEAL)

  
\_\_\_\_\_  
Notary Public

Date: 7/13/1998

  
\_\_\_\_\_  
Liangchi Hsu

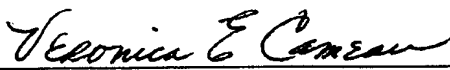
STATE OF \_\_\_\_\_ )  
 )  
COUNTY OF \_\_\_\_\_ ) ss.

On this 13<sup>th</sup> day of July, 1998, before me, a notary public in and for said county, appeared Liangchi Hsu, who is personally known to me to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he signed, sealed, and delivered the same instrument as a free and voluntary act for the uses and purposes therein set forth.

My commission expires 07-21-2001.

Witness my hand and official seal.

(SEAL)

  
\_\_\_\_\_  
Notary Public

**Act No. 656 of December 29, 1967 on the Right to Employees' Inventions\***

(as amended by Acts No. 961 of December 17, 1982, No. 526 of June 10, 1988 and No. 1698 of December 22, 1995)

1. The provisions of this Act shall apply to inventions, patentable in Finland, which have been made by a person in the service of another person—employee. This Act shall apply *mutatis mutandis* to persons employed in the public service. Where the employer claims a right in an employee's invention which limits the right of the employee to file and to obtain a patent for the invention, such invention shall in that respect be held to be patentable in Finland unless the employer gives probable reasons why there would be obstacles to the grant of a patent. (10.6.1988/526)

Teachers and the scientific personnel of universities, other colleges or equivalent scientific institutions of learning shall not, in such capacity, be regarded as employees within the meaning of this Act. This Act shall however apply to teachers at a military institution of learning who hold an office or appointment in the defense forces. (10.6.1988/526)

This Act shall not be applicable to persons who are in military service according to the Act on the liability to such service. (10.6.1988/526)

2. (10.6.1988/526) The provisions of this Act shall be applied insofar as nothing else has been provided for by contract or clearly results from the employment or from other circumstances. Contractual terms incompatible with Section 3, the second paragraph of Section 6, the first or third paragraph of Section 7, Section 7a, the second paragraph of Section 8 or Section 9 shall be invalid.

3. Employees shall have the same right to their inventions as other inventors unless anything else follows from the provisions of this Act or any other law.

4. Where an invention has come about as the result of an employee's activity in the performance of the work given to him or substantially as a result of using his experience in the enterprise of his employer, the employer may acquire the right to the invention, in whole or in part, if the use of the invention falls within his field of activity. Where the invention is the result of a task given in the course of service and specified with more precision, the employer may acquire the right even if the use of the invention is not within his field of activity.

Where an invention the use of which falls within the field of activity of the employer has come about in any connection with the employment other than those mentioned in the first paragraph, the employer may acquire the right to use the invention.

Should the employer wish to acquire a more comprehensive right to an invention referred to in the second paragraph than that provided for therein or should he wish to acquire the right to an invention which has come about without any connection to the employment but the use of which falls within his field of activity, the employer shall have an option to acquire such right by agreement with the employee.

change in circumstances. An employee shall not be obliged to refund compensation already paid.

The provisions of the Act on Legal Acts in the Field of Property Rights (228/29) shall apply to the adjustment of an unreasonable condition in a contract concerning a right derived from an employee invention. (17.12.1982/961)

10. (10.6.1988/526) Anyone who, as a result of this Act, learns about an invention, a trade or professional secret or the financial status of another person shall not, without authorization, disclose to any outside third party what he has learned.

11. (10.6.1988/526) A Board for Inventions shall be instituted which shall give opinions on questions relating to the application of this Act; the Board shall consist of a chairman and eight members.

The chairman and two members shall be appointed by the Government, for a specified term, from among persons who are considered not to represent employer or employee interests. The chairman and one of the members referred to, who shall at the same time act as vice-chairman, shall have the qualifications of a judge and be familiar with the work of a judge. The other members shall have an engineering training and be familiar with patent questions.

The other members, who shall be familiar with working conditions and inventive activities and of whom three shall represent the employers and three the employees, shall be appointed by the Government, for two years at a time, at the proposal of the respective organizations.

Each member of the Board shall have an alternate, appointed by the Government, with the qualifications prescribed for the member.

11a. (10.6.1988/526) An opinion from the Board of Inventions may be sought by employers and employees as well as by the courts where the dispute has been submitted to them. The same right shall be available to the Patent Office if it is dealing with an application for a patent for the invention.

The Board may also function as an arbitration tribunal if the employer and employee agree on this. For such function the Act on Arbitration Procedures [(46/28)] has to be observed, to the extent nothing else follows from this Act.

The Board's costs shall be paid from the public funds. Where the Board functions as an arbitration tribunal, the Ministry for Trade and Industry shall determine the honorarium of the chairman, the members and the secretary.

The Board shall publish to the extent necessary such opinions which may have significance with respect to the application of this Act in similar cases or which may have general significance. Where a patent application is pending the opinion may not be published before the documents have become available to the public under Section 22 of the Patents Act. In the opinion nothing may be included and published which has to be kept confidential.

More detailed provisions with respect to the Board shall be issued by the Government.

12. (22.12.1995/1698) The District Court of Helsinki shall have jurisdiction in disputes concerning employers' or employees' rights under this Act. In such proceedings, the rules relating to court procedure in patent cases shall apply where appropriate.

The District Court of Helsinki shall be the competent court where the dispute concerns the right to an invention within the meaning of this Act for which a European patent within the meaning of the European Patent Convention (Finnish Treaty Series 8/96) has been sought and if the employee at the time of making this invention was working principally in Finland. If no State can be shown where the employee was working

principally, the District Court of Helsinki shall be the competent court, if the employer at the moment the invention was made had in Finland such place of business where the employee making the invention was employed. The case may also be heard at the District Court of Helsinki where the parties to the dispute have, by word of mouth or in writing, agreed that the District Court of Helsinki shall be the court of competent jurisdiction in the case and where such agreement is permitted in the legislation of the State whose legislation is applied to the employment contract concerned.

13. More detailed rules for the application of this Act shall be issued by decree.

14. This Act shall enter into force on January 1, 1968.

This Act shall not apply to inventions made before January 1, 1968.

- 
- *Finnish title:* L [Laki] oikeudesta työntekijän tekemiin keksintöihin 29.12.1967/656.  
*Entry into force (of the last amending Act):* March 1, 1996.  
*Source:* Communication from the Finnish authorities.  
*Note:* English translation furnished by the Finnish authorities.



## ASSIGNMENT

I/We hereby declare that I/we

Kari Virtanen

have assigned to

Nokia Telecommunications Oy  
P.O.Box 300, FIN-00045 NOKIA GROUP  
(Keilalahdentie 4, 02150 Espoo, Finland)

my/our right to invention, priority, patent applications  
and patents, in all countries, on an invention

titled by / nimitys:

filed in Finland on / joka on jätetty Suomessa

having the filing number / hakemusnumerolla

and/or Nokia case number / ja/tai Nokian asianumerolla

The assignment of the rights includes a transfer of the  
patent rights in all countries, as well as the right to use a  
convention priority of the Finnish patent application in  
all countries.

The assignee alone hereinafter has the entire disposal  
of the invention and possesses the entire ownership to  
any domestic and foreign patents granted thereafter.  
The assignor/s undertake(s) to sign all documents neces-  
sary for taking out a patent and, furthermore, all such  
documents which may be required to assert rights trans-  
ferred hereby.

If the assignor/s is/are prevented by any obstacles from  
signing said documents in person, this document of  
assignment shall be valid as a Power of Attorney for the  
assignee or the whom the rights have been transferred  
to sign these documents on behalf of the assignor/s or  
in the event of the death of the latter, the estate thereof.

## SIIRTO

Vakuutan/Vakuutamme, että minä/me

olen/olemmme siirtäneet yritykselle

oikeuteni/oikeutemme keksintöön, etuoikeuteen,  
patenttihakemuksiin ja patentteihin kaikissa maissa  
seuraavaan keksintöön:

"Menetelmä ja järjestelmä tiedonsiirron palvelunlaadun  
rajoittamiseksi"

Oikeuksien siirto sisältää oikeuksien siirron kaikissa  
maissa ja oikeuden käyttää etuoikeutta suomalaises-  
ta patenttihakemuksesta kaikissa maissa.

Siirronsaajalla on tämän jälkeen keksintöön määrää-  
misoikeus ja hänellä on omistusoikeudet kaikkiin  
kotimaisiin ja ulkomaisiin myönnettyihin patentteihin.  
Luovuttaja/luovuttajat lupaa/lupaavat allekirjoittaa  
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siirron vahvistamiseksi.

Jos luovuttaja/luovuttajat on/ovat estynyt/estyneet  
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siirtoasiakirja on pätevä asiamiesvaltakirjana siirron-  
saajalle tai sille, jolle oikeudet on siirretty, näiden asia-  
kirjojen allekirjoittamiseksi luovuttajan/luovuttajien tai  
jälkimmäisen/jälkimmäisten kuoleman tapauksessa,  
sen/niiden kuolinpesän puolesta.

Place and date / Paikka ja aika Tampere 15.12 -98

Signature of the assignor/s /  
Luovuttajan/jien allekirjoitus Kari Virtanen

Clarification of signature/s /  
Allekirjoituksen selvennys Kari Virtanen

Address of the assignor/s  
Luovuttajan/jien osoite Tehotorink 34 D 17  
33 720 Tampere

7981532 FI/2

**CONFIDENTIAL**

Opinion report  
Communication to inventor

\_\_\_\_\_ File copy A  
\_\_\_\_\_ Inventors copy B  
COPY accepted \_\_\_\_/\_\_\_\_ 19  
COPY accepted \_\_\_\_/\_\_\_\_ 19

**INVENTION REPORT**

<b>Title of invention:</b> Call or session barring based on QoS parameters.	
<b>Inventor(s), profession:</b> Karl Virtanen, system engineer	
<b>Home address:</b> Tehtorinkatu 34 D 17, 33720 Tampere	
<b>Short description of invention:</b> For some pdp contexts/basic services in GPRS/GSM/UMTS/IN it is possible for the user to request certain QoS. When, for example, the subscriber lends his subscription to somebody, he may want to bar the usage of a PDP Context or basic service if the requested QoS exceeds a certain limit, especially when the used QoS is the Basis for charging. <b>Solution:</b> A new parameter, QoS profile, is introduced to the subscriber/SP controlled call/session barring Supplementary service parameters. The QoS profile contains parameters such as bit rate, delay, error ratio. The QoS profile can be controlled from the MS together with the password of call/session barring. The barring related admission control takes place for GSM barrings in MSC/VLR or HLR, for IN related Barrings in SCP and for GPRS related barrings in the SGSN. The QoS profile parameter can be applied to all GSM (UMTS) barrings described in 02.88, barring of interworking Profile described in 02.60 and IN based barring services.	
<b>In my opinion the invention belongs to category ____ *</b> (Not necessary to fill in)	<b>Enclosures:</b>

The invention becomes public: \_\_\_\_ / \_\_\_\_ 19

I/we consider the invention to belong to the category indicated above and to my/our best knowledge, I am/we are the sole/and original inventor(s) of this invention.

The company may, by virtue of the valid legislation, be entitled to full or partial right to the invention. I/we acknowledge my/our obligation to sign as inventor(s) all documents that may be required for protecting the invention in different countries.

Signature of inventor(s):

Date / / 19

Signature

**5**  
**ACKNOWLEDGE RECEIPT OF THE COMPANY'S DECISION REGARDING THE INVENTION INDICATED ABOVE**

Signature of inventor(s):

Date / / 19

Signature of inventor(s):

INVENTION REPORT RECEIVED		
Code: 14362	Company: MSG	Department:
Place and date: Espoo 22.6.98		
Signature: <i>K. Virtanen</i>		

3	
OPINIONS	
(Yes = 1, maybe = 2, no = 3)	
<input type="checkbox"/> Technical level <input type="checkbox"/> new <input type="checkbox"/> practicable <input type="checkbox"/> patentable	<input type="checkbox"/> Development level <input type="checkbox"/> ready for protecting <input type="checkbox"/> development work continues <input type="checkbox"/> idea worthy of development
<input type="checkbox"/> Marketing level <input type="checkbox"/> highly valuable <input type="checkbox"/> star product	<input type="checkbox"/> worthy of patenting <input type="checkbox"/> Level of protection <input type="checkbox"/> important to protect <input type="checkbox"/> easy to defend <input type="checkbox"/> difficult to evade
In my opinion the invention belongs to category ____ *	
I propose that the reported invention be <input type="checkbox"/> reserved by the company <input type="checkbox"/> left for the use of the inventor(s)	
Place and date:	
Signature:	

4
REPLY TO THE INVENTOR(S)
I make it known hereby that the company has decided to:
<input type="checkbox"/> reserve the invention for the company <input type="checkbox"/> reserve the right to use the invention <input type="checkbox"/> allow the inventor(s) the liberty for independent action <input type="checkbox"/> issue the enclosed statement <input type="checkbox"/> keep the invention secret <input type="checkbox"/> apply for a patent on the invention <input type="checkbox"/> refrain from applying for a patent on the invention <input type="checkbox"/> postpone the decision about applying for a patent
The invention belongs to category ____ *
If dissatisfied with this decision, the inventor(s) may appeal within 30 days to the Board of the company.
Announcement reward:
Place and date:
Signature:

**NOKIA**

LAUSUNTO

1 (1)

MSG/CST/IPS  
Irma Rajakangas

28.8.1998

NC-code: NC 14362  
Inventor(s): Kari Virtanen

Title of the invention: Call or session barring based on QoS parameters

Committee: NWS/MSG  
Status: New  
Subject classification: Service  
Status classification: 3**Description of the invention:**

*circuit switched*  
For some PDP contexts or basic services in GPRS/GSM/UMTS/IN the user can request a certain QoS. In some situations the subscriber may want to prevent the usage of a PDP context or basic service if the requested QoS exceeds a certain limit, especially when the QoS is a basis for charging. *MSISDN*

The invention provides a solution in which a new parameter, QoS profile (known as such), is included in the subscriber/SP<sup>2</sup> controlled call/session barring supplementary service parameters. The QoS profile contains parameters like bit rate, delay and error ratio. The parameters related to charging are relevant for barring. The profile can be controlled from the MS using a special password, which means that the subscriber can activate barring with specific QoS parameters. If this is not done, the limits of the system are used. The QoS request for an originating call is checked against the barring QoS parameters. This happens for GSM barrings in MSC/VLR or HLR, for IN-related barrings in SCP<sup>2</sup> and for GPRS-related barrings in SGSN. If the request exceeds the barring limit, the MS is informed that such QoS is not allowed. *SP-limits*

The inventor thinks that the IN-solution would be the best both in packet and in circuit switched systems. And it has the advantage that it does not require standardisation as the other possibilities do. *MSCSD*

**Evaluation:**

The invention seems quite relevant as QoS-negotiation is coming to the telecommunications as normal part of setting up a connection. QoS-negotiation is handled by the user, why a different solution is needed to set limits for users if the user is not the subscriber, who pays the bills. As an example, an employer may want to set limits for employees or the father for the children. Or if somebody normally wants as high QoS as possible, he may want to have a specific limit, while he is roaming.

Heikki Einola said that the invention sounds reasonable. Serge Haumont considered the idea good.

I suggest that a patent application is to be filed. (PAT)

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